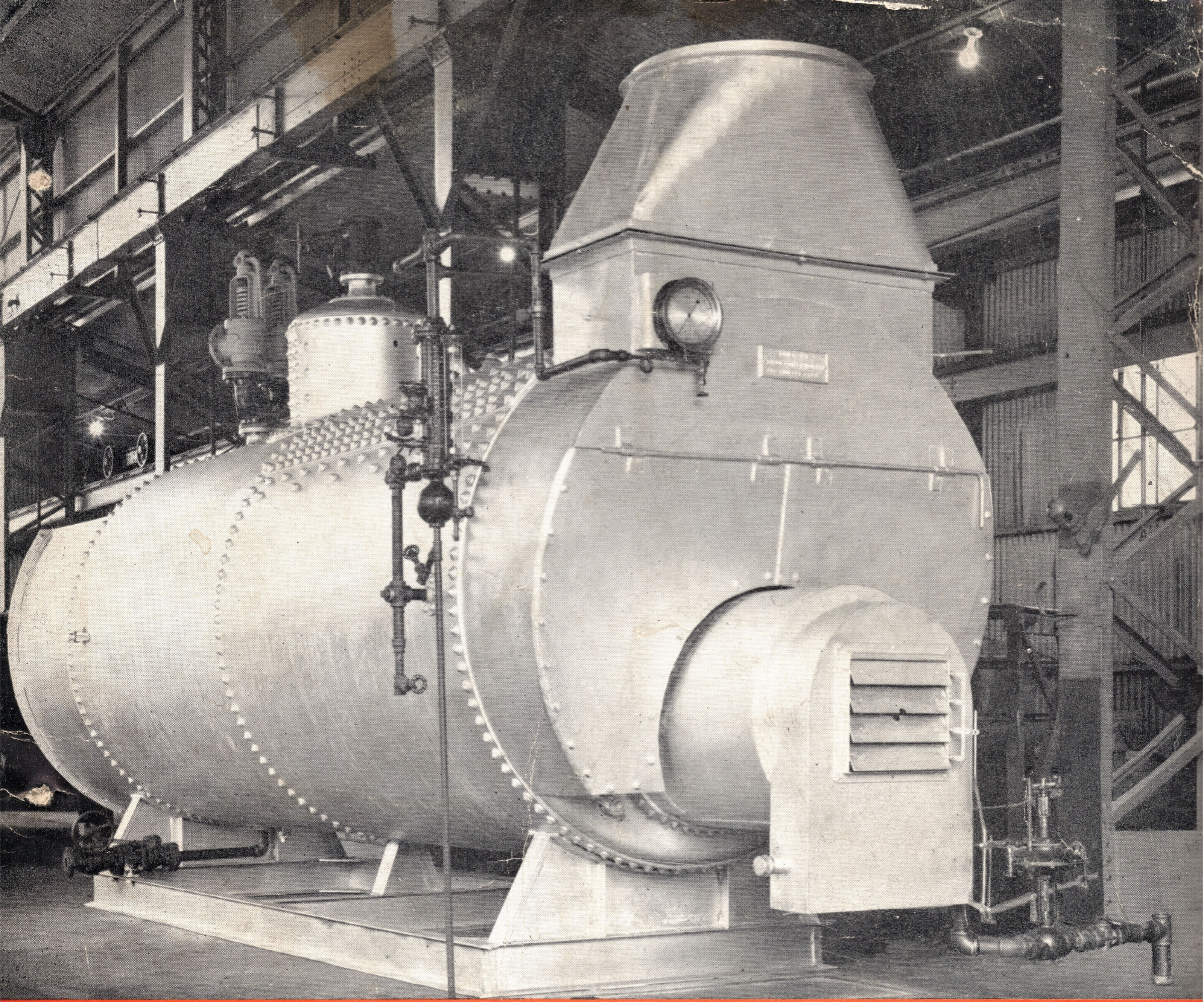
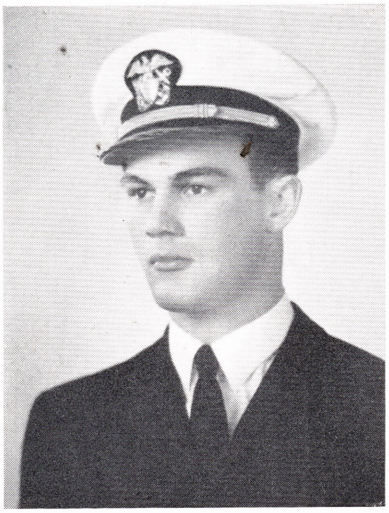


DIXON BOILER WORKS

★ *Manufacturers of* **SCOTCH MARINE, HORIZONTAL RETURN TUBULAR & A.S.M.E. CODE PRESSURE VESSELS**

PLANT: 1625 NAUD STREET • LOS ANGELES 12, CALIFORNIA
EXPORT REPRESENTATIVE • YARAS & COMPANY • 215 WEST 7th STREET, LOS ANGELES 14, CALIF.

T. R. DIXON
FOUNDER AND OWNER



R. T. DIXON, ASSOCIATE
Formerly U.S.N. Engineering Staff
U.S.C. Graduate Mechanical Engineering

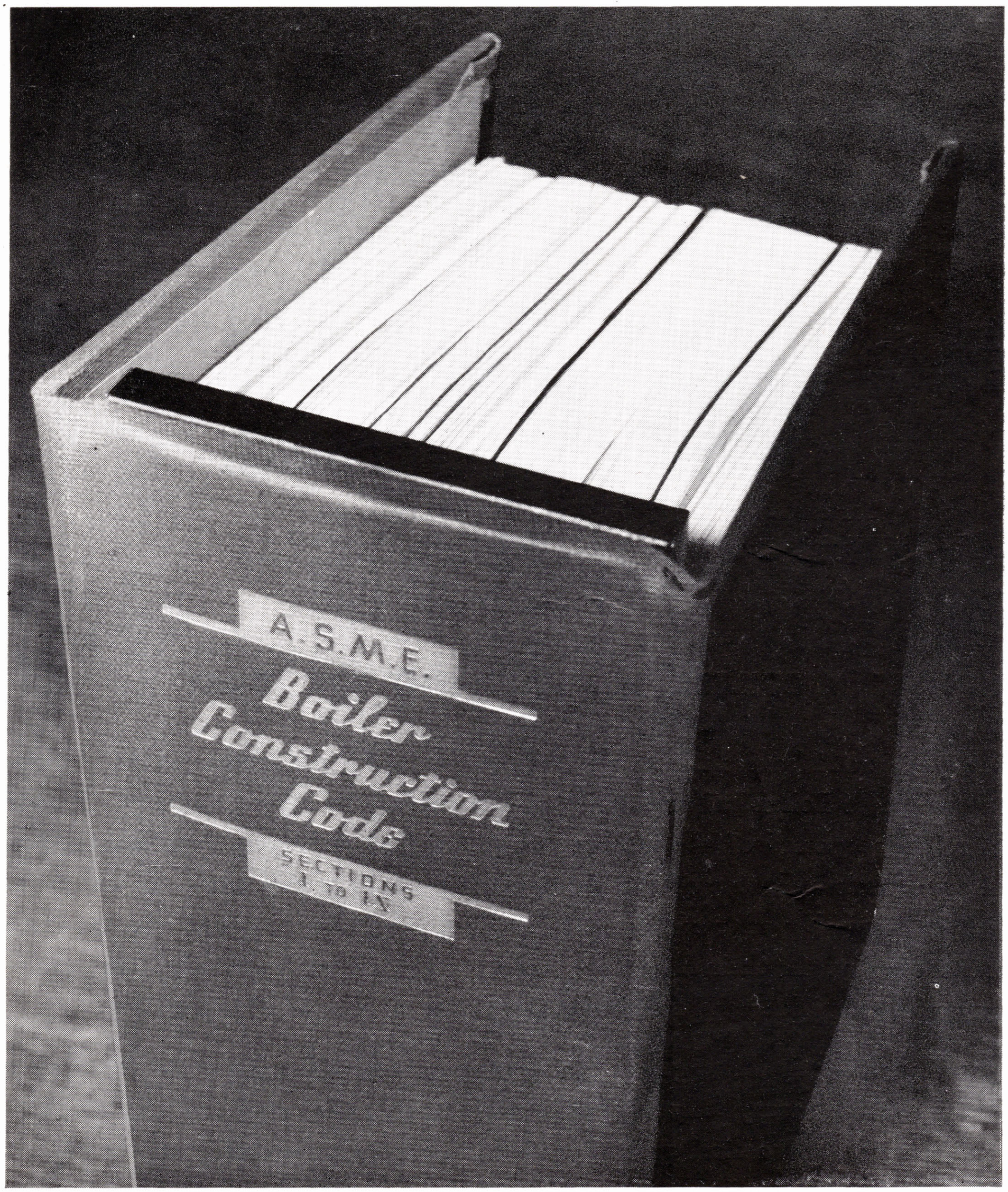
DIXON STEAM BOILERS AND EQUIPMENT FOR TODAY

In this Catalog earnest and honest efforts are made to faithfully and somewhat fully illustrate and describe the Steam Boilers, as now built and furnished by this Company. Proper consideration is therefore requested of the information given, that there may be a satisfactory understanding and appreciation of some of the distinguishing merits of this work. It comprises a line of Steam Boilers admirably adapted for and fulfilling in greatest measure the exacting power requirements for today. In their design and construction are embodied the best results of over 20 years' experience building and furnishing power for all the varied industries.

Behind this practically acquired knowledge is a large and commodious, new and thoroughly modern Manufacturing Plant, completely equipped with latest tools, arranged and specially adapted for most efficient and economical quality production, thus giving customers the benefit of assured service and at attractive prices.

It is, however, the purpose and policy of Dixon Boiler Works to keep fully abreast of the times, and should changing conditions suggest desirable improvements, the right is reserved to make such alterations or changes in the construction or attachments as we may deem best.

DIXON BOILER WORKS
Los Angeles, California



A.S.M.E. BOILER CODE BOOK

The above A.S.M.E. Boiler Code Book is a standard practically throughout the United States where good engineering construction is practiced and is used consistently by the Dixon Boiler Works in manufacturing of all boilers.

In 1911 The American Society of Mechanical Engineers appointed a committee to formulate standard specifications for the construction of steam boilers and other pressure vessels and for their care in service, which committee has since come to be known as the Boiler Code Committee. Specifications for materials used in such constructions have been adopted and included.

As the primary object of these rules is safety, the interests of users of boilers and pressure vessels are of paramount importance. The rules have been formulated to afford reasonably certain protection of life and property and to provide a margin for deterioration in service so as to give a reasonably long, safe period of usefulness. The interests of manufacturers have also been recognized by taking into consideration advancements in design and material, and the evidence of experience.

The Committee's function is the formulation of such rules and the interpretation thereof when the intent is not clearly indicated. Revisions and the adoption of new rules are given consideration at regular intervals to provide for progress in the art and the use of other materials. Proposed new rules and revisions, prior to their adoption, are published in Mechanical Engineering soliciting study and consideration by all interested parties.

The Boiler Code Committee does not approve, recommend, or endorse proprietary or specific designs, nor does it assume to limit in any way the builders' right to choose any method of design or form of construction that conforms to the Code rules.

The Committee meets at regular intervals for the purpose of considering inquiries relative to the Boiler Code. The ordinary procedure and handling of each case is as follows: All inquiries must be in written form and complete in detail before they are accepted for consideration. The inquiry is referred to the proper subcommittee to report its recommendation at the next or subsequent meeting of the Main Committee. The matter is then acted upon by the Main Committee at its meeting and also by letter ballot. If of general interest the reply is made by published interpretation, otherwise by letter communication. If an interpretation is approved by the Main Committee, it is submitted to the Council of the Society for its approval, after which it is issued to the inquirer and simultaneously published in Mechanical Engineering.

Each state and municipality that has accepted one or more of the sections of the Boiler Code is invited to appoint a representative to act on the Conference Committee to the Boiler Code Committee. Since the members of the Conference Committee are in active contact with the administration and enforcement of the rules, the requirements for inspections in Par. P-332 and similar paragraphs in the other sections of the Code correspond with those in effect in their respective jurisdictions. The required qualifications for an authorized inspector under these rules may be obtained from the administrative authority of any state which has adopted these rules.

The National Board of Boiler and Pressure Vessel Inspectors is composed of chief inspectors of states and municipalities that have adopted the Boiler Code. This Board, since its organization in 1919, has functioned to administer uniformly and enforce the rules of the Boiler Code. The cooperation of that organization with Boiler Code Committee has been extremely helpful. Its function is clearly recognized and, as a result, inquiries received which bear on the administration or application of the rules are referred directly to the National Board. Such handling of this type of inquiries not only simplifies the work of the Boiler Code Committee, but action on the problem for the inquirer is thereby expedited. Where an inquiry is not clearly an interpretation of the rules, nor a problem of application or administration, it may be considered both by the Boiler Code Committee and the National Board.

It should be pointed out that the state or municipality where the Boiler Code has been made effective has definite jurisdiction over any particular installation. Inquiries dealing with problems of local character should be directed to the proper authority of such state or municipality. Such authority may, if there is any question or doubt as to the proper interpretation, refer the question to the Boiler Code Committee.

The specifications for materials given in Section II of the Code are identical with or similar to those of the American Society for Testing Materials as indicated, except in those cases where that organization has no corresponding specification.

The Boiler Code Committee is deeply indebted to the American Society for Testing Materials, American Welding Society, U. S. Bureau of Marine Inspection and Navigation (now under the U. S. Coast Guard), A.S.M.E. Special Research Committee on the Strength of Vessels Under External Pressure, Special Committee on Rules for Bolted Flanged Connections, and other similar organizations and committees, for their cooperation in the formulation of these rules.

DIXON SCOTCH MARINE

- Easy to install.
- Mounted on steel H-Column cradle. Not necessary to build foundation.
- Overall dimensions require less space and head room than other boilers of equal rated capacity.
- Easy to fire, large combustion chamber in rear.
- Easy to wash out scale through handhole plates, 2 in bottom of boiler, 2 in front head, 1 on each side, also through manhole on top.
- Easy to clean tubes by using smoke box extension doors and explosion door.
- Especially noted for their low firing cost, gas or oil.
- Maintenance or repairs very low.
- Large liberating area and easy to maintain even pressure.
- Especially low water line is also very desirable.
- Dixon Scotch Marine boilers are satisfactorily adapted for oil firing. The extension on the front of the boiler gives ample combustion volume for burning oil efficiently. The gases travel to the rear of the boiler and then to front through the tubes and practically all of the heat units are absorbed before entering the stack. The combustion chamber in the rear of the boiler is especially constructed with refractory material protecting the rear end of the boiler so that there is no warping of plates.

BOILER ADVANTAGES

- Many of these boilers are now in operation and are giving very excellent satisfaction. Scotch Marine boilers are particularly adapted for oil burning since the tubes are completely covered with water. Any reputable make of gun type oil burner can be operated satisfactorily in this type of boiler.

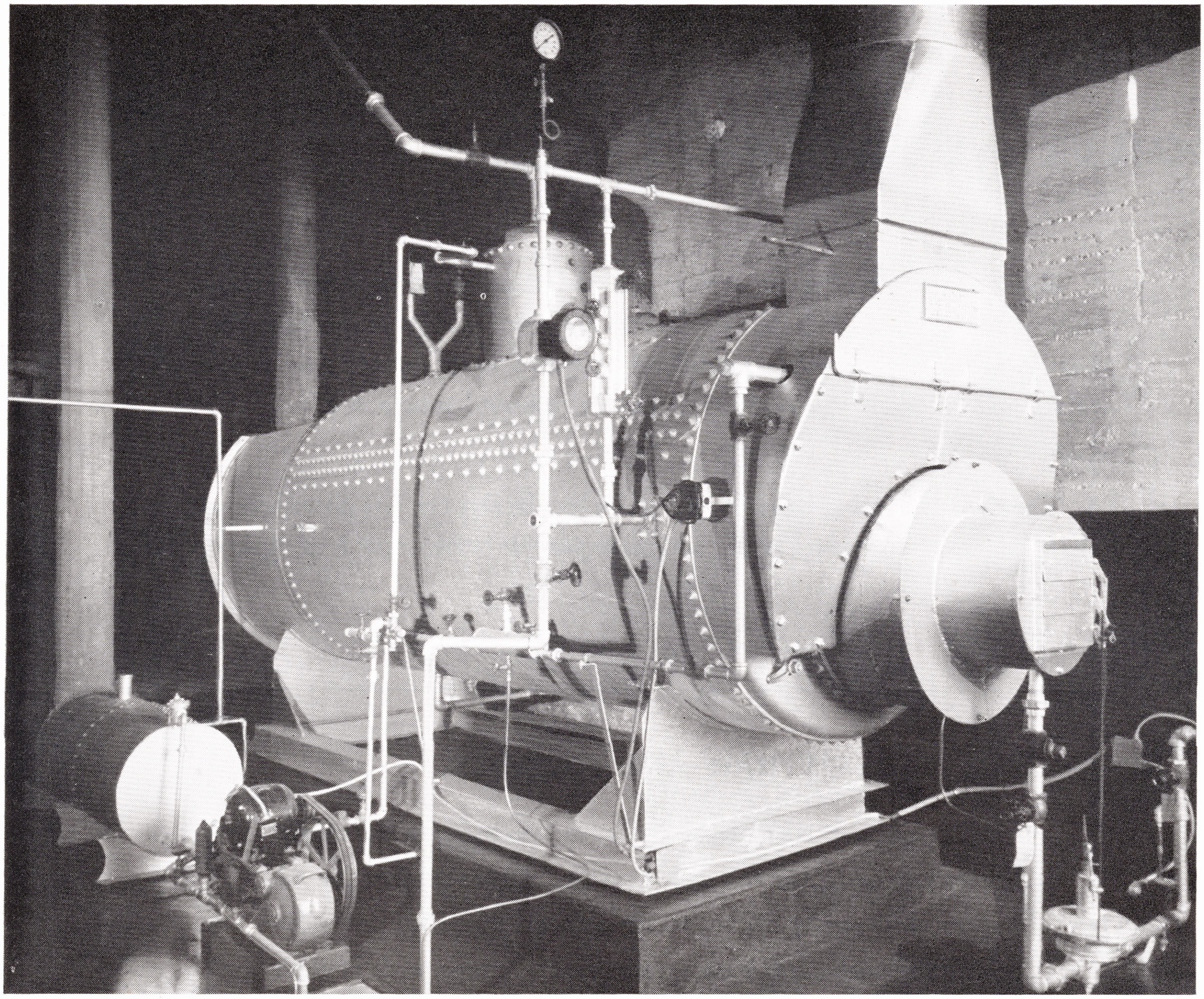
- The Scotch Marine boiler is particularly adapted for any installations since it is a self-contained boiler and no expensive brick work is necessary.

FITTINGS AND FIXTURES

The regular equipment includes breeching with smoke box extension, door and stack saddle, also extension for oil burner, pop safety valve, water column piped up to boiler and fitted with glass water gauge, steam gauge with syphon and cock, gauge cocks, blow-off valve with elbow and pipe connected to boiler.

On 35 H.P. and larger size boiler, the Adamson expansion ring furnaces are used.

For Complete Specifications see Page 7.



One of our 50-horsepower Scotch Marine boilers with gas burner and automatic equipment installed for the Cole Company of California, manufacturers of the world famous Hollywood swim-suits.

This boiler installed with a Nemec combustion natural gas burner with pressure and draft controls, Mercoid switch, Nemec low-water fuel cut-off making this boiler 100% fully automatic. These automatic apparatus can be fully installed on any Scotch Marine boiler at an additional cost.

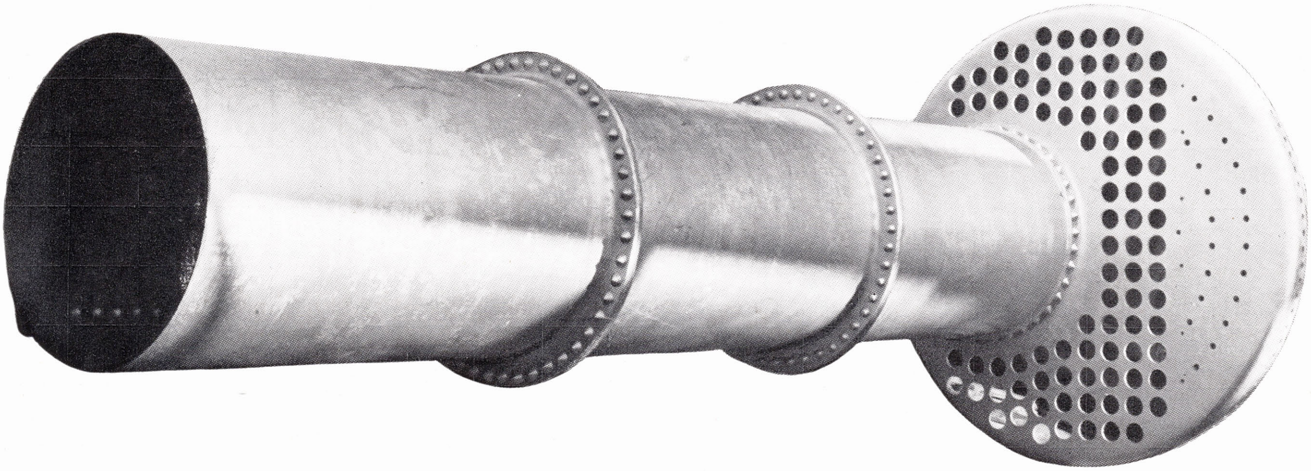
SPECIFICATIONS OF SCOTCH MARINE BOILERS

HORSEPOWER RATING IS BASED UPON 10-SQUARE FEET OF DIRECT HEATING SURFACE PER HORSEPOWER

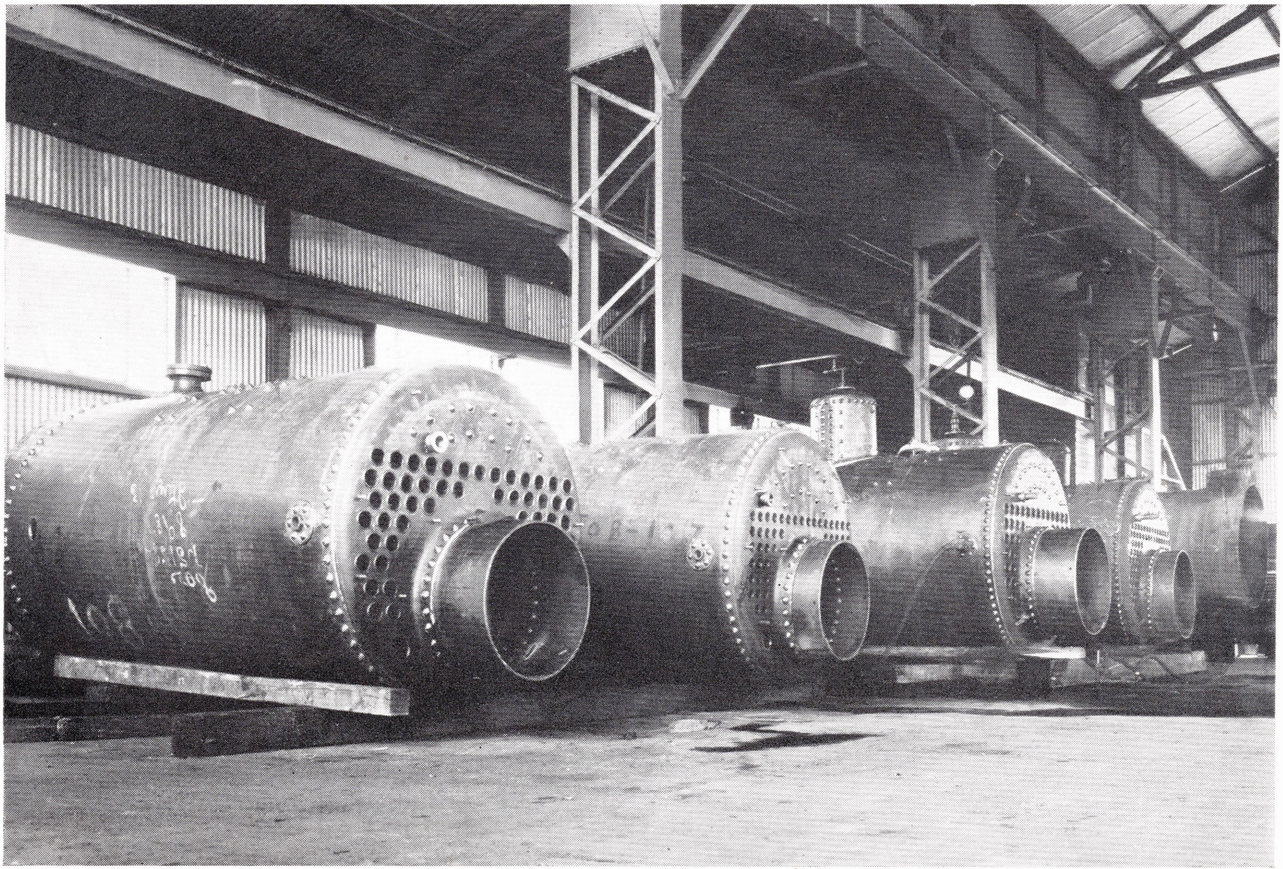
HORSEPOWER	10	15	20	25	30	35	40	50	60	75	85	100	120	140	160	175	200
LENGTH OVERALL	84″	108″	120″	120″	132″	162″	164″	176″	176″	180″	192″	240″	240″	258″	270″	270″	270″
LENGTH OF BOILER	60″	72″	84″	84″	96″	108″	108″	120″	120″	120″	132″	168″	168″	180″	192″	192″	192″
DIAMETER OF BOILER	36″	42″	48″	54″	54″	54″	60″	60″	66″	72″	72″	72″	78″	78″	78″	84″	88″
DIAMETER OF FURNACE	18″	20″	24″	24″	24″	26″	30″	30″	30″	30″	30″	32″	32″	34″	36″	38″	38″
FURNACE EXTENSION LENGTH	12″	12″	12″	12″	12″	24″	26″	26″	26″	30″	30″	32″	32″	36″	36″	36″	36″
LENGTH OF COMBUSTION CHAMBER	18″	24″	24″	24″	24″	30″	30″	30″	30″	30″	30″	40″	40″	42″	42″	42″	42″
DIAMETER OF DOME	16″	18″	18″	20″	20″	20″	24″	24″	24″	24″	24″	24″	30″	30″	30″	30″	None
HEIGHT OF DOME	16″	18″	18″	20″	20″	20″	24″	24″	24″	30″	30″	30″	30″	30″	30″	30″	None
HGT. OF BOILER FROM FLOORLINE WITH CRADLE	16″	16″	18″	18″	18″	18″	18″	18″	18″	18″	18″	18″	18″	18″	18″	18″	18″
TOTAL HEIGHT OF BOILER	72″	78″	86″	94″	94″	94″	104″	104″	110″	120″	120″	120″	126″	126″	126″	132″	120″
SMOKE STACK SIZE REQUIRED DIAM. & LGTH.	16″x 20′	18″x 20′	20″x 25′	20″x 25′	22″x 25′	22″x 25′	24″x 30′	24″x 30′	24″x 35′	26″x 40′	30″x 40′	30″x 40′	30″x 40′	36″x 50′	36″x 50′	38″x 50′	40″x 60′
ESTIMATED SHIPPING WEIGHT	4,000	4,800	5,580	6,600	8,400	8,900	11,100	14,000	17,900	18,500	19,800	26,500	29,500	34,000	37,000	40,000	48,000

NOTE:

WE RESERVE THE RIGHT TO CHANGE DIMENSIONS ON ANY SIZE OF BOILER TUBES DUE TO CRITICAL SHORTAGE OF STEEL, BUT CHANGE WILL NOT DECREASE HORSEPOWER.

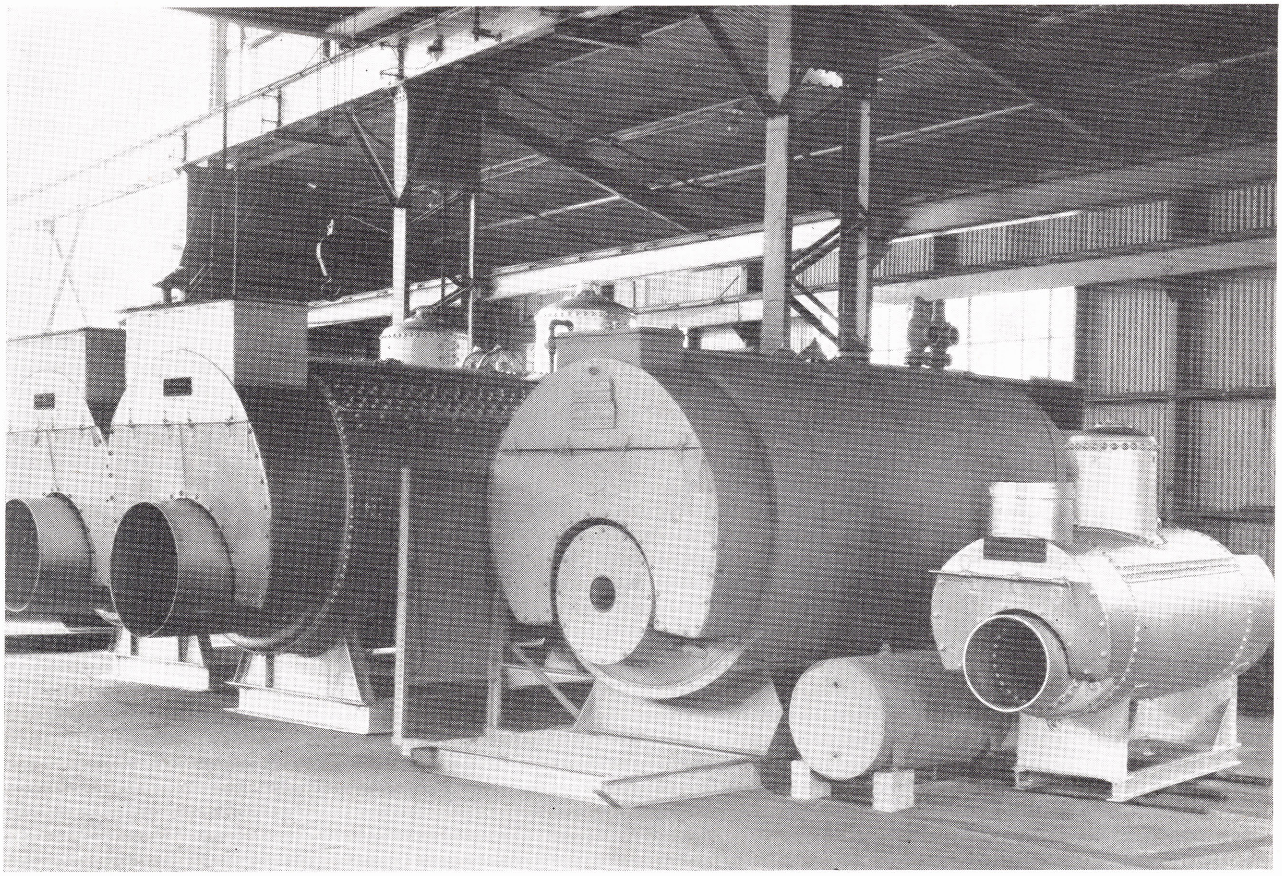


Adamson expansion-ring joints are used in all Dixon Scotch Marine boilers from 30-horsepower to 200-horsepower. This type of furnace is superior to any other type of furnace used because it offers no pockets for sediments and scale, also its use is for working pressure designed for strength and expansion joints. These joints determined by thickness, diameter, and length of each section governs the working pressure of your boiler. Reference made to Section P 242 of the A.S.M.E. boiler code.



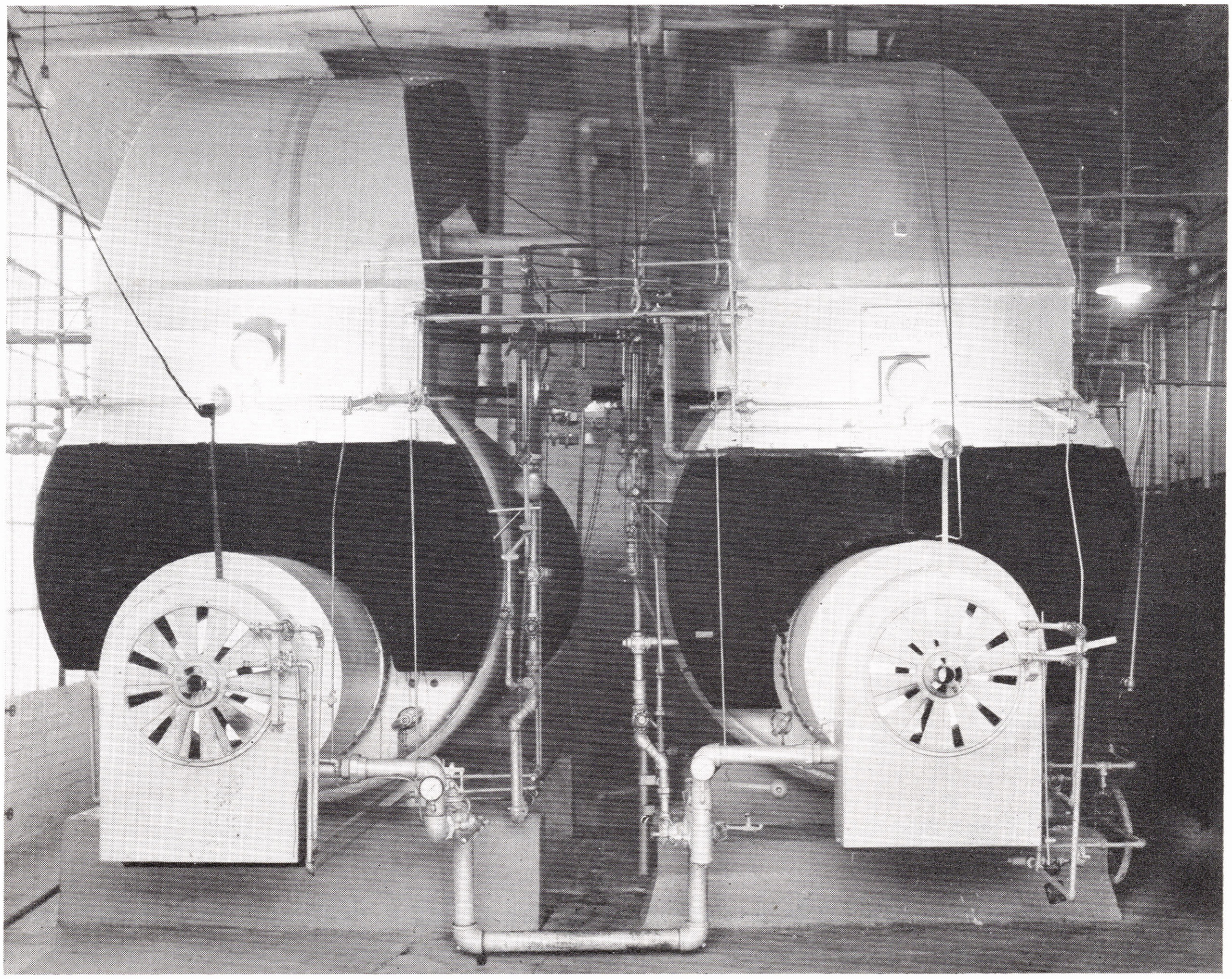
The above Scotch Marine boilers are under construction at our plant. Particularly notice the furnace extension for dutch-oven and water-feed line entrance above tubes is noted by boiler bushing.

All boilers are given a hydrostatic test of 1½ times the working pressure to prove the accuracy of our work.



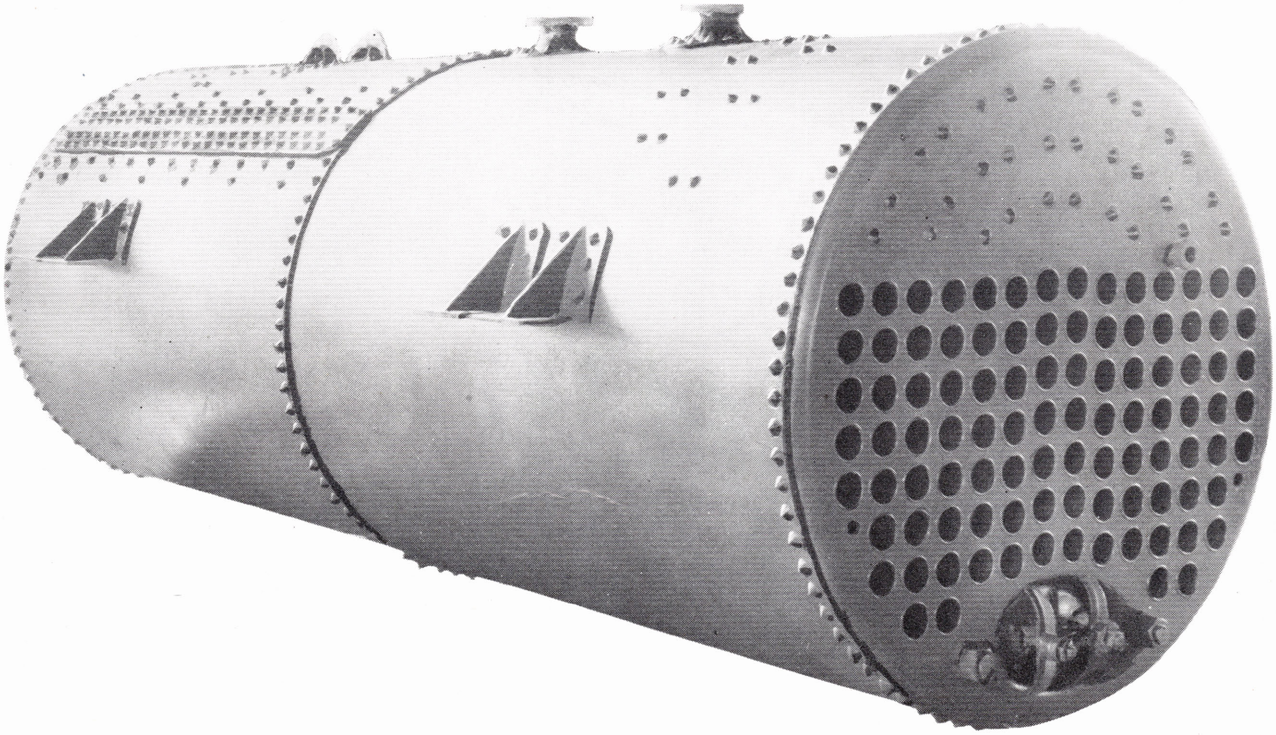
Scotch Marine boilers completed and ready for shipment. If you will notice, all sizes are mounted upon steel H-beams skids or cradle. This is a permanent base for all Scotch Marine boilers. This type of a base requires no other foundation other than a substantial reinforced concrete floor. This base is 18″ in height from the bottom of boiler to floorline unless otherwise requested. This insures the accessibility of the removing and replacing of handhole plates for washing out boiler.

NOTE: All Scotch Marine boilers have extensions for dutch-oven on front-end to receive burners.



Two 160-horsepower Scotch Marine boilers installed with gas-burning equipment in one of the leading creameries of the Pacific Coast.

These boilers are equipped fully automatic with stand-by oil burning equipment and are operating at 100% overload daily.



DIXON HORIZONTAL RETURN TUBULAR BOILERS

Horizontal return tubular boilers are intended for setting in brickwork or masonry, inside of firebox lined with firebrick or equal refractories. Fittings, if furnished, for this type of boiler are standard and consist of safety-pop valve, feed and check valves with piping and nipples for connection to boiler, blow-off valve, water column, gauge cock and syphon, steam gauge, rear arch bars, smoke-box extension and stack if desired. When desired, we furnish steel superstructure so boiler may be suspended independently of brick wall. This is an A.S.M.E. boiler code rule. All of our H.R.T. boilers are flush-end unless otherwise specified.

SPECIFICATIONS OF HORIZONTAL RETURN TUBULAR BOILERS

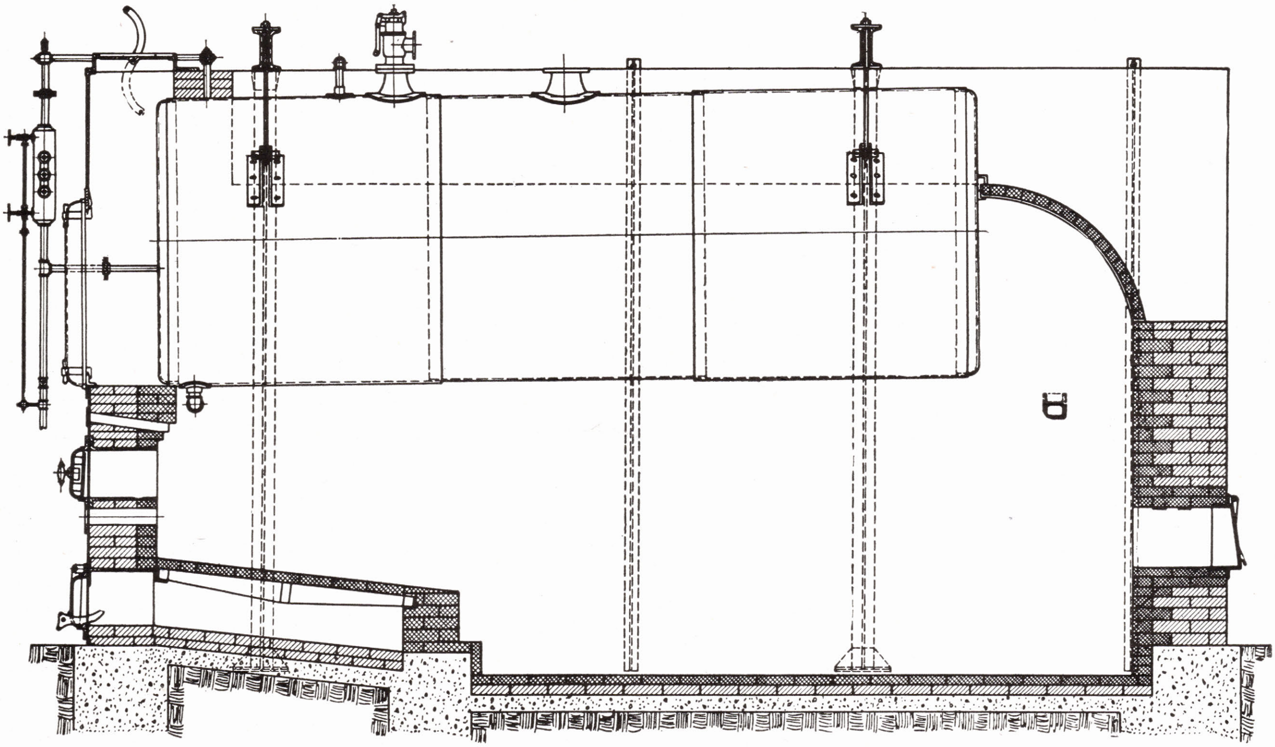
HORSEPOWER RATING IS BASED ON 10-SQUARE FEET OF DIRECT HEATING SURFACE PER HORSEPOWER

HORSEPOWER — SIZE	25	35	45	55	70	85	100	125	165
LENGTH OF BOILER	96″	120″	144″	168″	192″	192″	192″	192″	216″
DIAMETER OF BOILER	42″	42″	48″	48″	54″	60″	66″	66″	72″
NUMBER OF TUBES	36	40	44	44	54	46	54	94	98
SIZE OF TUBES	3″	3″	3″	3″	3″	4″	4″	3″	3½″
DIAMETER OF DOME	18″	18″	20″	20″	24″	24″	30″	30″	Dry Pipe
HEIGHT OF DOME	18″	18″	20″	20″	24″	24″	30″	30″	
SIZE OF SAFETY VALVE OUTLET	2″	2″	2½″	2½″	3″	4″	4″	5″	6″
SIZE OF BLOW-OFF OUTLET	1¼″	1¼″	1½″	1½″	2″	2″	2″	2½″	2½″
SIZE OF SMOKE STACK REQUIRED	18″x25′	18″x30′	20″x30′	22″x30′	26″x30′	28″x40′	30″x40′	30″x40′	34″x50′
APPROXIMATE SHIPPING WEIGHT, BARE BOILER	4,000	5,100	6,300	7,400	9,300	10,400	14,100	15,800	19,500″
SQUARE FEET HEATING SURFACE	254	352	461	549	740	857	1,002	1,256	

Boilers of 42″ and 48″ diameter have manhole in rear head also boilers of 54″ to 72″ diameter have manhole in top shell plate and front head. Also 3½″x4½″ handholes in front head. All joints are double, triple, or quadruple riveted butt and double strap joint corresponding to pressure wanted up to 150 pounds working pressure. All girth seams are lap riveted. Dome on all boilers except 165 horsepower a dry pipe is installed instead. All domes have baffel in top head, this insures dry steam.

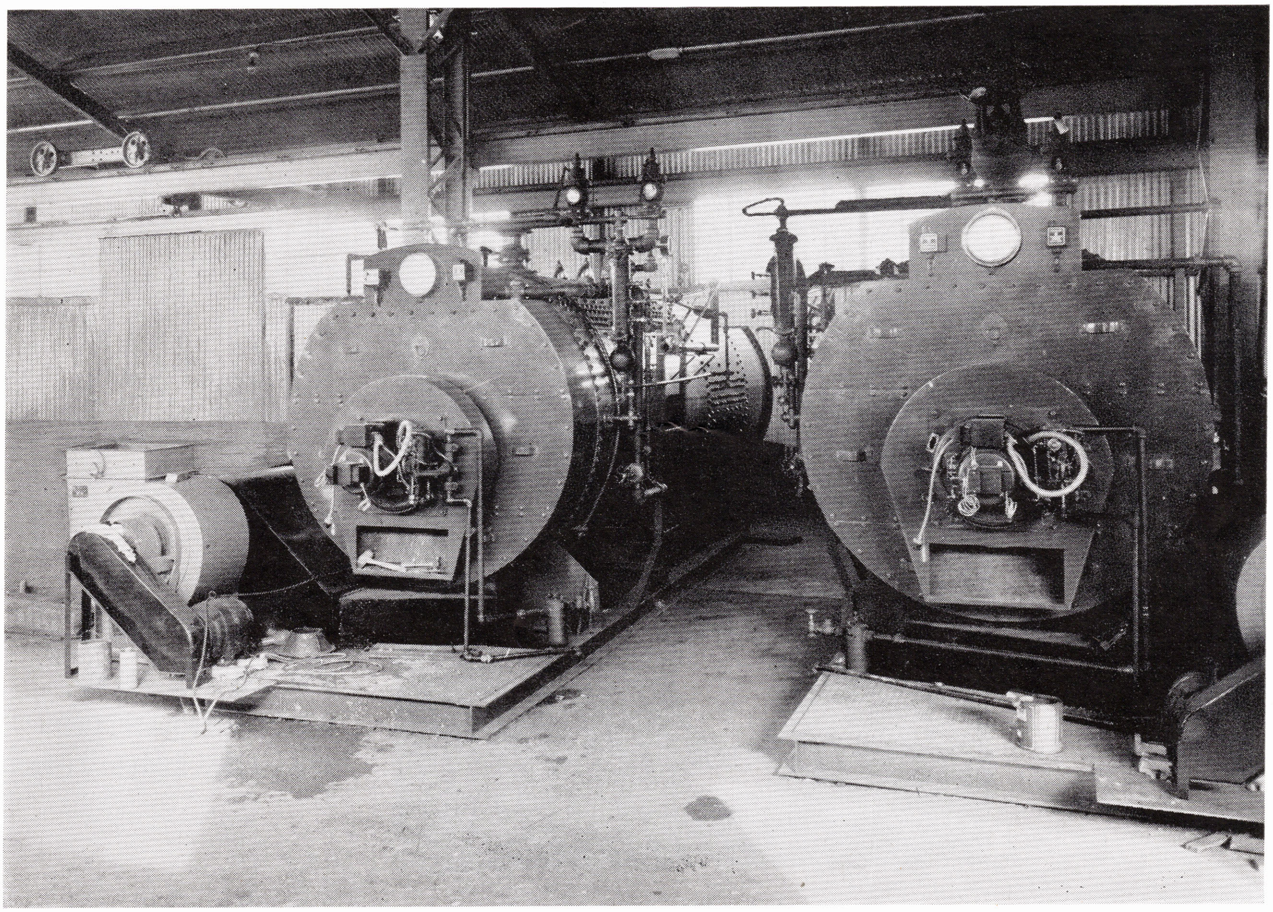
NOTE:

WE RESERVE THE RIGHT TO CHANGE DIMENSIONS ON ANY SIZE OF BOILER TUBES DUE TO CRITICAL SHORTAGE OF STEEL, BUT CHANGE WILL NOT DECREASE HORSEPOWER.

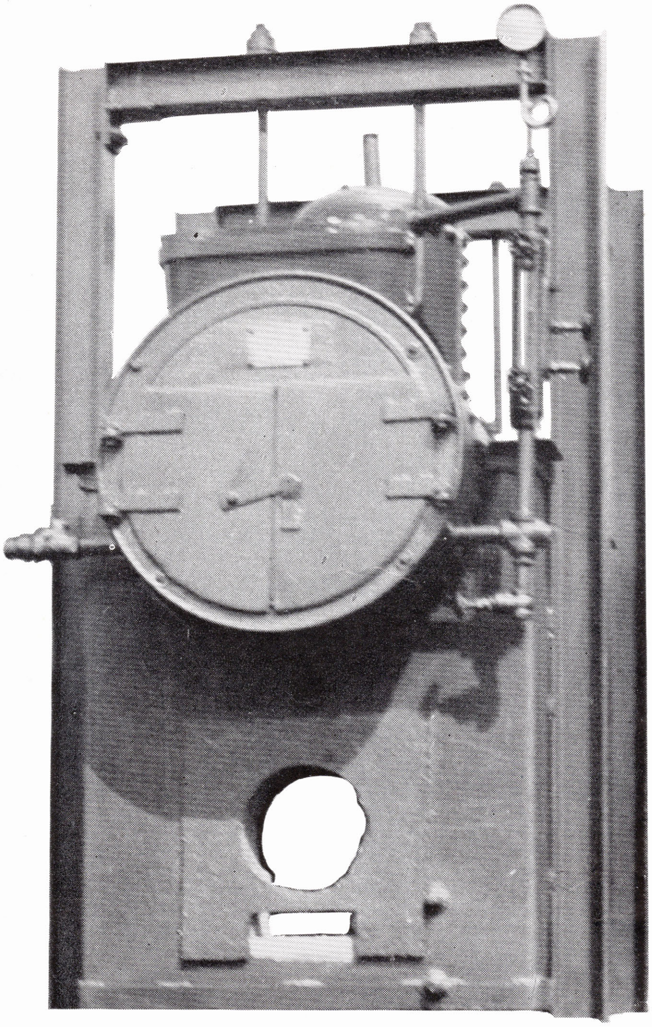


Sectional View of Typical Dixon Horizontal Return Tube Boiler Each With Full Front

This type of boiler when properly set with good setting of red brick and firebrick lining, also air-cool wall, will develop 1½ or more of their rated capacity when fired with good fuel. We have many of these boilers in service with a high rate of efficiency. These boilers are generally used in laundries, dry-cleaning plants, meat packing companies, oil-fields and refineries, dairy and creameries, etc.



The above are two 4-pass gas-fired Scotch Marine Boilers, that are only made on special orders, ranging in horsepower from 50 to 250, also pressures from 100 to 150 pounds. These boilers are fully automatic equipped with induction blowers which eliminate large smoke stacks. These boilers are portable. In making inquiry, state fuel that is going to be used.



DIXON ECONOMIC BOILER

GAS OR OIL FIRED WITH GUARANTEED SEAMLESS STEEL TUBES

A.S.M.E. CODE BOILERS

An all steel horizontal boiler lined throughout with 4½ inch fire brick, ready for operation. These boilers are constructed of Firebox steel from 55,000 to 63,000 pounds tensile strength. It is very saving on fuel and is portable. These boilers are constructed for 100 pounds working pressure and are tested to 150 pounds hydrostatic pressure. It is a space saver wherever this type is used. They are used in small creameries and dairies, laundries, dry cleaners and small manufacturing plants. This type will burn any kind of fuel and will give many years of service at a minimum maintenance cost.

SPECIFICATIONS OF DIXON ECONOMIC BOILERS

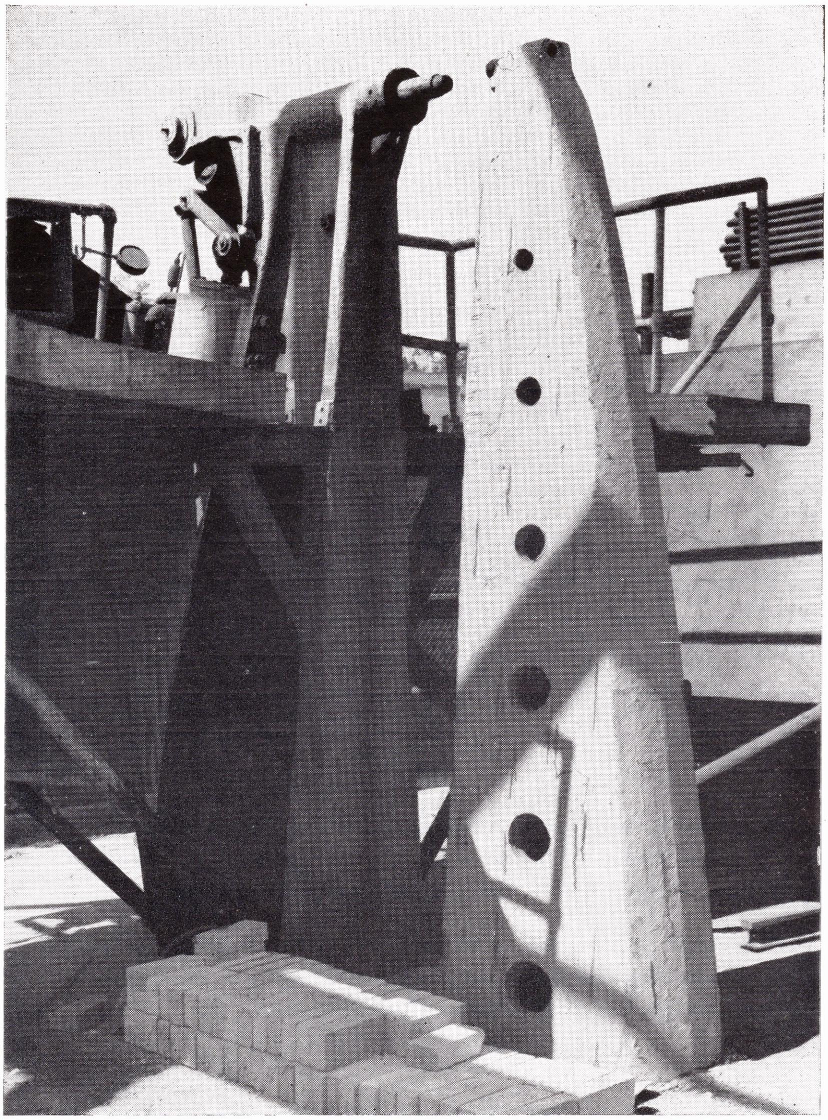
HORSEPOWER RATING	5	6	7	10	12½	15	17	20
DIAMETER OF SHELL	26″	26″	26″	30″	30″	30″	30″	36″
THICKNESS OF SHELL	¼″	¼″	¼″	¼″	¼″	¼″	¼″	¼″
THICKNESS OF HEADS	⅜″	⅜″	⅜″	⅜″	⅜″	⅜″	⅜″	⅜″
LENGTH OF TUBES	3′	4′	5′	5′	6′	7′	8′	7′
NUMBER OF 3″ TUBES	15	15	15	22	22	22	22	28
SQUARE FEET OF HEATING SURFACE	49	59	71	100	125	150	174	205
SIZE OF BLOW-OFF VALVE	1″	1″	1″	1″	1″	1″	1″	1¼″
SIZE OF SAFETY VALVE	1″	1″	1″	1″	1¼″	1¼″	1¼″	2″
LENGTH OF STACK	24′	24′	24′	24′	24′	24′	24′	24′
DIAMETER OF STACK	12″	12″	12″	14″	14″	14″	14″	16″
APPROXIMATE WEIGHT, COMPLETE	2,400	3,000	3,500	4,000	4,540	4,770	5,000	6,010

We furnish the following fixtures and fittings: Smoke-box extension, door and stack saddle, firebrick lining, safety valve, steam gauge and syphon, water column with glass water gauge, gauge cocks, feed check and blow-off valves, smoke stack and guy-lines.

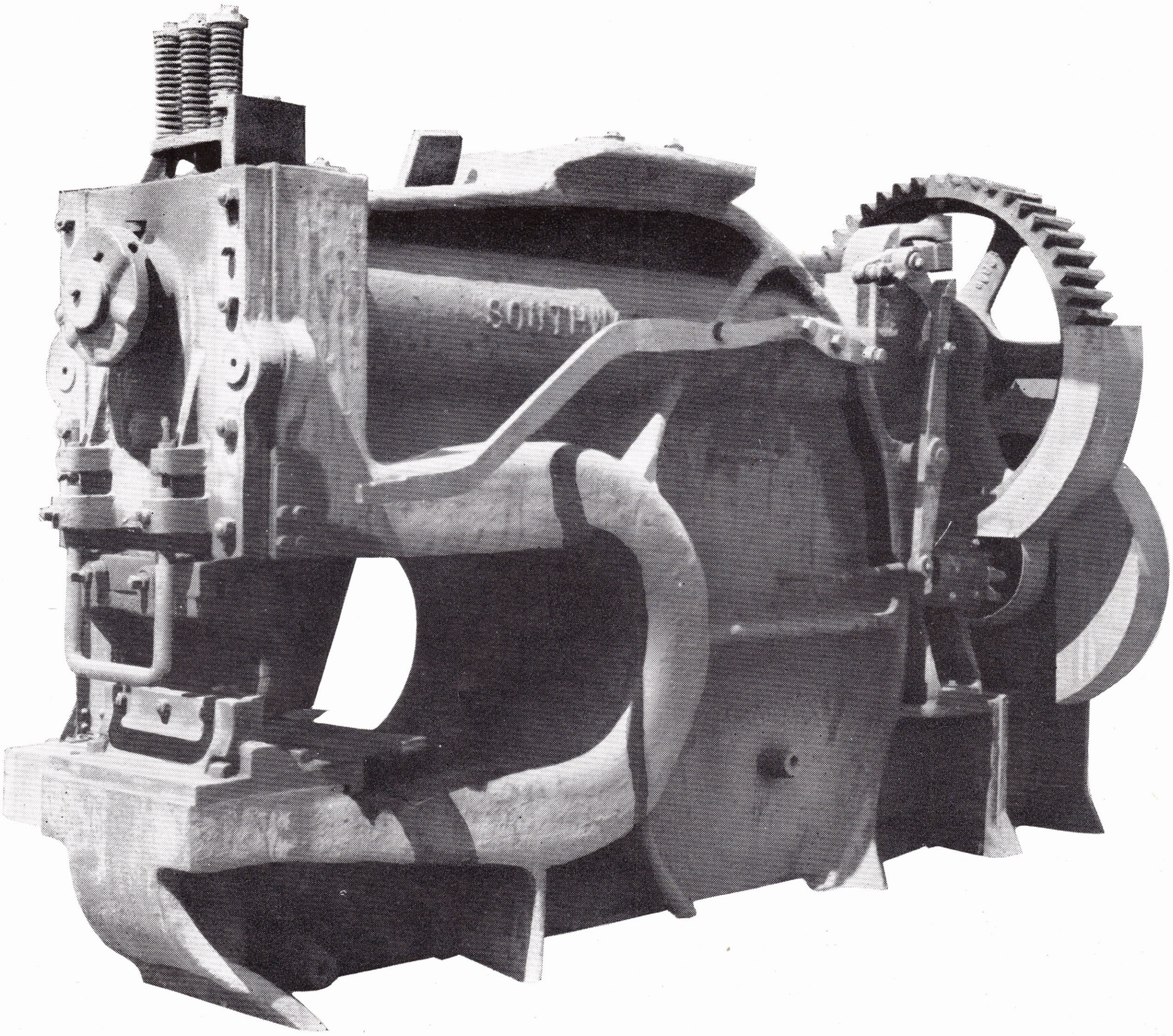
Automatic gas or oil controls such as gas or oil pressure regulator, low-water cut-off, damper regulator, etc. can be furnished if desired for an additional cost. By adding these automatic gas or oil controls you can make a boiler 100% automatic.

NOTE:

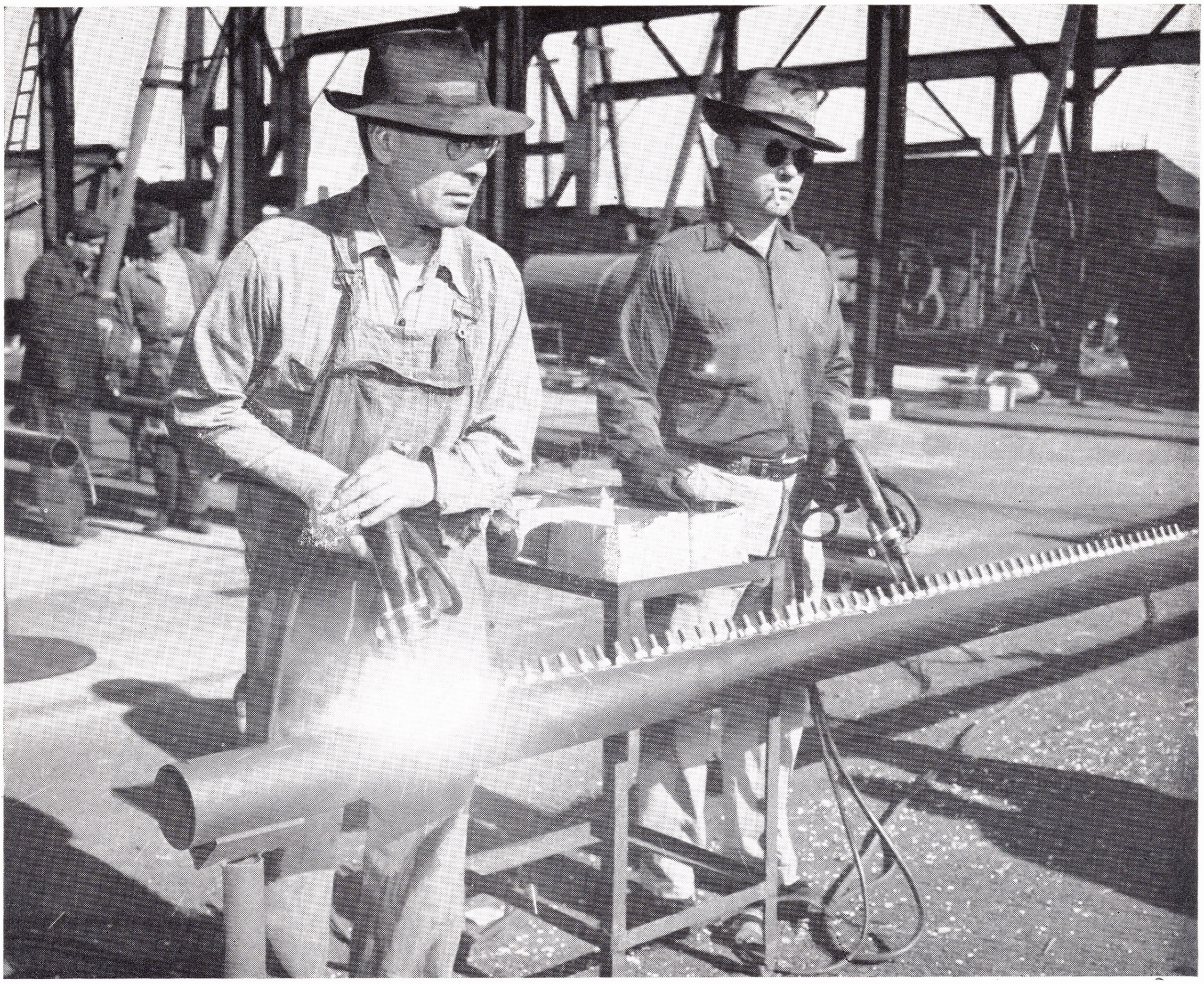
WE RESERVE THE RIGHT TO CHANGE DIMENSIONS ON ANY SIZE OF BOILER TUBES DUE TO CRITICAL SHORTAGE OF STEEL, BUT CHANGE WILL NOT DECREASE HORSEPOWER.



This hydraulic riveter of 150 tons pressure is used wherever possible, thus insuring a tight joint. When not possible to drive rivets hydraulically, rivets are driven with latest improved pneumatic hammers by skilled workmen.



The above 48″ throat power-punch of 280 tons punching capacity is part of our equipment in the manufacturing of our boilers. This is the largest punching capacity of a punch-press of this kind ever built for boiler manufacturing.



The above shows the fabrication of water-wall boiler tubes with fins for the purpose of increasing the heating surface, also for the attachment of insulating materials for this type of water-tube boilers. We are equipped to bend and fabricate any type of water-wall tubes. In making inquiries, furnish drawings and specifications as to sizes, etc.

BOILER REPAIRS ON ALL TYPES OF BOILERS

WELDING

ELECTRIC AND ACETYLENE

A.S.M.E. CERTIFIED WELDERS

PORTABLE AIR COMPRESSOR AND WELDING MACHINE

PATCHES INSTALLED

TUBES RETIPPED

ANY TYPE OF BOILER RETUBED

BOILERS WASHED AND CLEANED

SHEET IRON WORK

SMOKE STACK WORK

PLATE WORK

TANK WORK

RIVETING

WORK DONE ANY TIME! ANY PLACE! BY SKILLED MECHANICS

PROMPT SERVICE

REASONABLE RATES

ESTIMATES CHEERFULLY GIVEN

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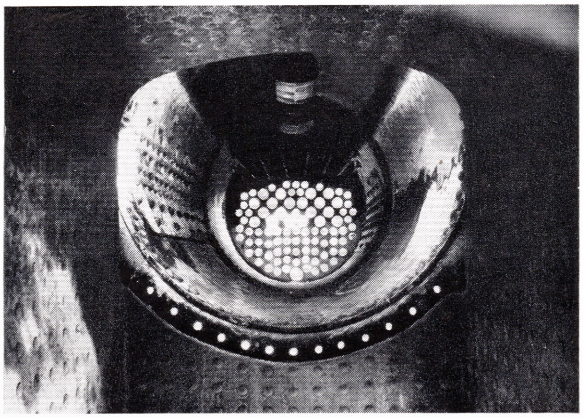

Interior of boiler through fire box door.

This cut illustrates a new tube sheet being installed in a large firebox boiler of 350 pounds working pressure. This work can be done at our shop or on the job where boiler is being used.